

REBUTTAL TESTIMONY

OF

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Illinois Commerce Commission Staff

Application pursuant to Section 7-204 of the Public Utilities Act for authority to engage in a Reorganization, to enter into an agreement with affiliated interests pursuant to Section 7-101, and for such other approvals as may be required under the Public Utilities Act to effectuate the Reorganization

Wisconsin Energy Corporation, Integrys Energy Group, Inc., Peoples Energy, LLC,
ATC Management Inc., American Transmission Company LLC,
The Peoples Gas Light and Coke Company, and North Shore Gas Company

Docket No. 14-0496

January 15, 2015

1 **Q. Please state your name and business address.**

2 **A.** My name is Harold L. Stoller. My business address is 527 East Capitol Avenue,
3 Springfield, Illinois, 62701.

4 **Q. Are you the same Harold Stoller who previously provided direct testimony**
5 **in this proceeding?**

6 **A.** Yes. My direct testimony is ICC Staff Ex. 1.0.

7 **Q. What is the purpose of your rebuttal testimony?**

8 **A.** I am responding to what I see as a possible misconception about pipeline safety
9 that could arise from reading Mr. Coppola's direct testimony, AG Exhibit 2.0, and
10 also a suggestion implicit in his testimony that the Commission ("Commission")
11 should extend from 2030 to 2040 the deadline when Peoples Gas Light and Coke
12 Company ("Peoples Gas") is to complete its Accelerated Main Replacement
13 Program ("AMRP"). I am also pointing out that the same pipeline safety
14 considerations that should apply to the implicit suggestion in Mr. Coppola's
15 testimony should also apply in consideration of the position in Wisconsin Energy
16 Corporation ("WE") and Integrys Energy Group Inc. ("Integrys"), which includes
17 Peoples Gas and North Shore Gas Company ("North Shore"), (collectively "Joint
18 Applicants" or "JA") testimony, (JA Exhibits 1.0, 6.0 and 9.0) that the time frame

19 for completion of AMRP depends upon the continued existence of Rider QIP
20 (Qualifying Infrastructure Plant). Finally, I am providing Liberty Consulting's
21 interim AMRP investigative report.

22 **Q. Are you sponsoring any attachments to your testimony?**

23 **A.** Yes. As stated above, I am providing Liberty's Interim Audit Report as
24 Attachment A (Confidential and Public).

25 **Q. What is the misconception about pipeline safety that you believe might**
26 **arise from Mr. Coppola's testimony?**

27 **A.** When Mr. Coppola testifies that the Joint Applicants have yet to describe how
28 maintaining the current AMRP schedule will "ensure" the safety and reliability of
29 their gas system, (AG Ex. 2.0, 34), I believe his use of the word "ensure" can
30 create a misconception, and probably not a misconception he intended. No
31 person and no pipeline safety measures can "ensure" a pipeline system's safety.
32 All pipeline safety measures are expected to contribute to maintaining the safety
33 of a gas system, but no one of them, and not all of them added together, can
34 "ensure" the safety of that system. I believe that is important to keep in mind as I
35 further discuss pipeline safety below.

36 **Q. Why have you described Mr. Coppola's suggestion about extending the**
37 **AMRP as an "implicit" suggestion?**

38 **A.** When specifically asked in his direct testimony if he is proposing that the
39 Commission order a new AMRP completion date as a condition of merger
40 approval, Mr. Coppola says he is not making such a proposal. (AG Ex. 2.0, 33)
41 He then says that the JAs have provided no reason why continuing the existing
42 AMRP is in the public interest. Id. The pipeline safety issue I will address in this
43 testimony is that Mr. Coppola, while he does not explicitly suggest extending the
44 AMRP completion date, provides several reasons why that might appear to be a
45 reasonable solution to the issues he identifies with the AMRP. While I am not
46 attempting to address or refute in this testimony any of the issues that Mr.
47 Coppola identifies, I do, however, want to address an issue with extending AMRP
48 that he has not addressed to any degree.

49 **Q. What is the issue that Mr. Coppola has not addressed that you wish to**
50 **discuss?**

51 **A.** Mr. Coppola does not address the pipeline safety implications of any decision to
52 delay AMRP completion. Mr. Coppola addresses issues regarding the manner in
53 which Peoples Gas has conducted AMRP. They involve what Mr. Coppola
54 identifies in his testimony as a tenuous JA commitment to continuing AMRP (AG
55 Ex. 2.0, 6), the JAs' insufficient due diligence examination of AMRP (Id., 6), a

significant increase in projected AMRP construction costs, (Id., 6-7), the absence of projected reductions in gas leaks and operations and maintenance expenses during the AMRP (Id., 7), insufficient information about the degree to which high risk segments of cast and ductile iron mains are being replaced (Id., 7) and projected adverse rate impacts if the existing AMRP schedule is permitted to continue (Id., 7-8.)

Q. What impact on pipeline safety do you believe is not addressed by Mr. Coppola?

A. There are many facts and circumstances that could have a potentially negative effect on the safety of Peoples Gas' system that are not addressed in Mr. Coppola's testimony.

Q. What facts and circumstances are you referring to?

A. Listing and describing all facts and circumstances that, if known, could contribute to any conclusion about whether the Peoples Gas system, or any system, is safe or not is beyond the scope of my testimony. However, in the case of the Peoples Gas system, there are facts and circumstances that relate specifically to the nature and behavior of cast and ductile iron in the Peoples Gas system that I believe are of particular importance.

Q. What are those facts and circumstances?

75 **A.** Cast and ductile iron are piping materials that lose their strength over time
76 through processes of corrosion and graphitization. My understanding of pipe
77 graphitization and corrosion from the nearly fifteen years that the PSP has been
78 in my division leads me to believe that they are inevitable processes that can
79 significantly degrade the safety of cast and ductile iron gas pipe over time.

80 **Q.** **What is your understanding of the graphitization process?**

81 **A.** Cast iron is a combination of iron and graphite, among other substances. When
82 iron exits a pipe through the process of graphitization, and graphite is left behind,
83 the result is a progressively weakened and brittle pipe. To the eye, if a
84 graphitized segment of pipe could be viewed in place without removing the soil
85 around the pipe, the pipe may look unaffected and appear to be sound.
86 However, graphitized regions of the cast iron pipe wall will become brittle and
87 subject to failure under loads caused by soil shifting, temperature variation, soil
88 vibration caused by heavy surface traffic or shock from direct impact. Our PSP
89 made me aware some time ago of a situation they observed during a gas system
90 audit where, when soil was removed from around and below a segment of cast
91 iron pipe, the bottom simply fell out of the pipe where the soil was removed.
92 That, to me anyway, was a clear example of the deteriorating effect of
93 graphitization on cast iron pipe. The age of the cast iron, chemistry of the soil
94 around the pipe, electrical current resistivity or conductivity of the soil, stray

95 electrical current presence in the soil, soil moisture and aeration fluctuations, and
96 corrosion rates are factors that all can contribute to unpredictable graphitization
97 rates. Electrical current, for example, can arise from the corrosion process itself,
98 or it can arise from outside influences, such as, for example, stray direct current
99 from electric train systems, a significant but transient and unpredictable issue in
100 Chicago.

101 **Q. What is your understanding of corrosion?**

102 **A.** Cast iron and ductile iron are both subject to corrosion which causes the iron pipe
103 in any gas system to become weaker and less resistant to leaks. The pipe also
104 becomes less strong and brittle, that is, less resistant to outside impacts and
105 pressures. While corrosion monitoring is the best known way to establish the
106 condition of iron-based pipes, it is not by itself an entirely effective measure for
107 measuring the condition of either cast or ductile iron pipes. Cathodic protection,
108 used to monitor corrosion on steel pipe is not effective on cast and ductile iron
109 pipe due to the lack of electrical continuity across joints between segments of
110 pipe and, in fact, the CFR does not require a corrosion control program for cast
111 and ductile iron piping. Cast and ductile iron can, and in fact do graphitize and
112 corrode. A constant and pervasive leak monitoring program for cast and ductile
113 iron facilities, for example, can help to determine the condition of cast and ductile
114 iron facilities, but leak monitoring alone cannot provide complete assurance that

the safety of cast and ductile iron facilities is not being degraded, to at least to some degree. In fact, the cast and ductile iron pipes over the passage of time become weaker and more brittle and more susceptible to catastrophic failure.

Q. What is your opinion of the most significant danger to cast and ductile iron pipes in the Peoples Gas system.

A. When the soil around Peoples Gas' cast and ductile iron facilities is disturbed and changed in any way as described above, the risk of total failure is increased. By total failure, I mean the collapse of or a complete break in the pipe. Soil can be disturbed by excavations in the area of the system pipes or by frost heaving in cold winters, for example. Chicago is in a climate where frost heaves can and do occur on a regular basis during the winter. In addition, the underground environment in Chicago is heavily congested with utility facilities of many types, such as phone lines, electrical lines, water lines and sewer lines. All of those facilities can require excavation for maintenance and repair. Every excavation for any purpose, no matter how carefully existing underground facilities have been located and how carefully the excavation is conducted, can lead to soil movement or disturbance. Every soil movement or disturbance, even street repair, which is a constant activity in an urban environment, has the potential to lead to complete failure of old and corroded, weakened and compromised, cast and ductile iron. In the urban environment in Chicago, where facility congestion

135 is common below ground and high population density is common above ground,
136 the consequences of complete failure of gas pipes can have consequences
137 involving loss of property and life. And, that risk, while it cannot be precisely
138 quantified, and regardless of how unquantifiable it might be, increases with the
139 passage of time. While I cannot quantify the risk, extending the end date for
140 AMRP will most certainly increase that risk.

141 **Q. How do your concerns about the safety implications of extending the end**
142 **date for AMRP relate to the JA's direct and rebuttal testimony?**

143 **A.** In direct and rebuttal testimony for the JAs, Allen L. Leverett, (JA Ex. 1.0, 18-19:
144 395- 410; JA Ex. 6.0, 14: 407-409) and James F. Schott (JA Ex. 9.0, 4: 75 -77)
145 make it very clear that the JAs' commitment to completing AMRP by 2030
146 depends upon the continued availability of the QIP cost recovery mechanism.
147 While financial implications regarding the completion date of AMRP are
148 important, neither witness devotes any significant attention to the pipeline safety
149 implications of extending the end date of AMRP. I believe that the same pipeline
150 safety implications I described above apply to extending the completion date for
151 AMRP by reason of the issues raised by Mr. Coppola as well as to extending the
152 completion date for AMRP by reason of the issues raised by Mr. Leverett and Mr.
153 Schott. AMRP was not ordered by the Commission for reasons other than
154 pipeline safety and the end date for AMRP should not be extended without

serious consideration being given to the pipeline safety implications of an extension.

Q. What is your recommendation regarding extending the time period for completion of Peoples' AMRP?

A. I strongly recommend against any extension of the AMRP completion date.

Q. Why are you providing the interim Liberty report about their investigation of Peoples' AMRP?

A. Several witnesses in this proceeding have referred in various ways to AMRP and Liberty Consulting's investigation of that activity. Those witnesses have mentioned several issues that have arisen and may arise in connection with AMRP and the Liberty investigation. I believe that, rather than permit additional speculation and controversy about the Liberty investigation, I should place in the record of this proceeding a copy of an interim report Commission Staff received from Liberty on January 14, 2015

Q. What purpose should the interim report serve in this case?

A. AMRP is a project that was started years ago by a Commission order and later became the subject of a Commission-ordered investigation. At this point, my reading of the attached Liberty Interim Audit Report indicates that there are, in Liberty's opinion, several problems with the way Peoples Gas has conducted AMRP. Liberty has made some preliminary findings about AMRP and has some

175 preliminary recommendations about how those problems can and/or should be
176 resolved. However, Liberty has significant investigative and analytical work yet
177 to do and its final positions about problems and solutions may change
178 significantly. I do not believe the Commission should try to resolve in this
179 proceeding any AMRP problems that Liberty has only preliminarily identified and
180 about which it has formulated preliminary recommendations. Staff's purpose in
181 introducing the Interim Audit Report into evidence in this docket is to make clear
182 to the JAs and the Commission the possible scope and scale of the obligations
183 JAs will be undertaking in the event the merger is approved, and to afford the JAs
184 the opportunity to assure themselves as well as Commission that they are ready,
185 willing and able to step into the shoes of Integrys and Peoples Gas and continue
186 to implement the AMRP consistent with the directives in the Commission's
187 Orders in Docket Nos. 09-0166/09-0167 (Cons.) and Docket Nos. 12-0511/12-
188 0512 (Cons.), in light of these obligations. This position is also consistent with
189 Staff's position identified in testimony in Staff Exhibit 2.0 in this docket. (Staff Ex.
190 2.0, 3-4.)

191 **Q. What is your view of the process that might be followed that Liberty has**
192 **identified?**

193 **A.** AMRP is a project that is going to take no less than another decade and one-half
194 to complete, if the present schedule remains in place. There is an almost
195 innumerable number of events that can occur and circumstances that can

196 change in that amount of time. Liberty is scheduled to complete its final report on
197 the investigation in the middle of 2015, and there will then be a period of time
198 during which Commission and its Staff and the utility will work out which of the
199 final Liberty recommendations will be implemented, which might not, and which
200 might be implemented in some other form. After that, Liberty will undertake a
201 two-year period of monitoring implementation of the recommendations. After that
202 period of time, it may be useful or necessary for the Commission to consider
203 further monitoring of implementation of the original recommendations or of
204 whatever recommendations are by then found to be appropriate. In any event,
205 this proceeding is not a situation in which it would likely be at all productive to
206 attempt to resolve either any or all of Liberty's interim recommendations.

207 **Q. Does that conclude your rebuttal testimony?**

208 **A.** Yes, it does.